Sheet 1 of 3

FORM PTO-1449

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE
MATERIAL INFORMATION STATEMENT
(Use several sheets if necessary)

ATTY, DOCKET NO. SERIAL NO.
OMRF106CIP 08/259,321

APPLICANT

Alireza Rezaie, et al.

FILING DATE GROUP

June 10, 1994 1806

## U.S. PATENT DOCUMENTS

|     | DOCUMENT NUMBER          | DATE   | NAME  | CLASS  | SUBCLASS   | IF APPROPR  | FILING DATE<br>ATE  |
|-----|--------------------------|--|---|--|--|---|---|
| AA  | 4,506,009                | 03/19/85   | Lenhoff, et al.   |  |  |   |   |
| АВ  | 5,147,638                | 09/15/92   | Esmon, et al.   |  |  |   | MY 22 1895  |
| AC  | 5,202,253                | 04/13/93   | Esmon, et al.   | -  |  | <u> </u>  | war hadd  |
| -AD | -5,298,599               | 03/29/94:  | Rezaie, et a  | 1  |  |   | ±   |
| AE  | 5,336,610                | 08/09/94   | Esmon, et al.   |  |  |   |   |
| AF  |                          |  |   |  |  |   |   |
| AG  |                          |  |   |  |  |   |   |
| АН  |                          |  |   |  |  |   |   |
| ΑI  |                          |  |   |  |  |   |   |
| AJ  |                          |  |   |  | -  |   |   |
| AK  |                          |  |   |  |  |   |   |
|     | AB AC -AD AE AF AG AH AI | AA 4,506,009  AB 5,147,638  AC 5,202,253  -AD -5,298,599  AE 5,336,610  AF  AG  AH  AI | AA 4,506,009 03/19/85  AB 5,147,638 09/15/92  AC 5,202,253 04/13/93  -AD -5,298,599 03/29/94 -  AE 5,336,610 08/09/94  AF  AG  AH  AI | AA 4,506,009 03/19/85 Lenhoff, et al.  AB 5,147,638 09/15/92 Esmon, et al.  AC 5,202,253 04/13/93 Esmon, et al.  -AD -5,298,599 03/29/94 Rezaie, et al.  AE 5,336,610 08/09/94 Esmon, et al.  AF AG AH AI AI | AA 4,506,009 03/19/85 Lenhoff, et al.  AB 5,147,638 09/15/92 Esmon, et al.  AC 5,202,253 04/13/93 Esmon, et al.  -AD 5,298,599 03/29/94 Rezaie, et al.  AE 5,336,610 08/09/94 Esmon, et al.  AF AG AH AI | AA 4,506,009 03/19/85 Lenhoff, et al.  AB 5,147,638 09/15/92 Esmon, et al.  AC 5,202,253 04/13/93 Esmon, et al.  -AD 5,298,599 03/29/94 - Rezaie, et al.  AE 5,336,610 08/09/94 Esmon, et al.  AF AG AH AI AI | AA 4,506,009 03/19/85 Lenhoff, et al.  AB 5,147,638 09/15/92 Esmon, et al.  AC 5,202,253 04/13/93 Esmon, et al.  -AD -5,298,599 03/29/94 Rezaie; et al.  AE 5,336,610 08/09/94 Esmon, et al.  AF AG AH AI AI AJ |

## FOREIGN PATENT DOCUMENTS

|    | DOCUMENT NUMBER | DATE | COUNTRY | CLASS | SUBCLASS | TRANSLATION |      |
|----|-----------------|------|---------|-------|----------|-------------|------|
|    |                 |      |         |       |          | YES         | NO - |
| AL |                 |      |         |       |          |             |      |
| АМ |                 |      |         |       |          |             |      |
| AN |                 |      |         |       |          |             |      |
| AO |                 |      |         |       |          |             |      |
| AP |                 |      | ,       |       |          |             |      |

OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)

| RAR       | AR | Beckmann. Robert J. et al. "The structure and evolution of a 461 amino acid human based upon the DNA sequence of cloned human liver cDNAs," <u>Nucleic Acids Res.</u> 13 |  | NA. |
|-----------|----|--|--|-----|
| <b>33</b> | AS | <br>Colman. R.W. et al., Hemostasis and Thrombosis: Basic Principles and Clinical Prac<br>Philadelphia, PA 1987)*  | ctice 2nd Ed., p. 263 (J.B.Lippincott. |     |
| 100 M     | AT | Daugherty, et al., Nucl. Acids Res., 19:2471-2476 (1991)*  |  |     |

EXAMINER

Walder Wildmoon

DATE CONSIDERED

<del>8-19-95</del> 42397

\*EXAMINER: Initial if reference considered, whether or not citation is in-conformance with MPEP 609: Draw line through citation if not in conformance and not considered. Include copy of this form with-next communication to applicant.

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SERIAL NO. 08/259,321 ATTY, DOCKET NO. OMRF106CIP 1417 2 Alireza Rezaie, et al. GROUP. 1806 FILING DATE June 10, 1994

|         |         | OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)  |
|---------|---------|---|
| AS AS   | AR      | Dreyfus, Marie, et al., "Treatment of Homozygous Protein C Deficiency and Neonatal Purpura Fulminans with a Purified Protein C Concentrate," New England Journal of Medicine 325(22):1565-1568 (1991)   |
| WAA     | AS      | Esmon, Charles T., "The Regulation of Natural Anticoagulant Pathways," Science 235:1348-1352 (1987)   |
| PA      | AT      | Esmon, Charles T., "the Roles of Protein C and Thrombomodulin in the Regulation of Blood Coagulation," J. of Biol. Chem. 264(9):4743-4746 (1989)  |
| AAA     | AR      | Esmon, C.T., et al., at the Joint IABS/CSI, Symposium on Standardization in Blood Fractionation including Coagulation Factors,  Melbourne, Australia 1986 (reported in Develop, Biol, Standard., 67:51-57 (S. Karger, Basel, 1987)  |
| AA      | AS      | Esmon, C.T., et al., at the Joint IABS/CSL Symposium on Standarization in Blood Fractionation incluiding Coagulation Factors.  Melbourne, Australia 1986 in Develop, Biol. Standard, 67:75-82 (S. Karger, Basel, 1987)  |
| MA      | ΑŤ      | Freyssinet, J.M., et al., "Inhibition of Human Protein C Activation by Vitamin K-dependent Proteins, Involvement of the v-Carboxyglutamic Acid Domain in Distinct Interactions with the Human Thrombin-Thrombomodulin Complex and Phospholipids," Thrombosis and Haemostasis 58(1):230 (1987) |
| NA.     | AR      | Goding, James W., "Purification, Fragmentation and Isotopic Labelling," Monoclonal Antibodies; Principles and Practices 110-113 (Academic Press, Inc.) (1983)   |
|         | AS      | Hendl, Sylvia, et al., "Immunoaffinity purification of grotein C with a calcium-dependent monoclonal antibody," Rev. Iberoamer  Thromb, Hemostasia 4(1):25-28 (1991)  |
| K OA    | AT      | Hongo, Tasuku, et al. Cell 18:559-568, (1979)*  |
| PA      | AR      | Ikeda, Kyoichi and Johan Stenflo, "A Radioimmunoassay for Protein C." Thrombosis Research 39:297-306 (1985)   |
|         | AS      | Kabat, H.A., et al., Sequences of Proteins of Immunological Interest, 4th Ed. U.S. Dept. Health and Human Services, Bethesda, N (1987)*   |
| 第       | АТ      | Kisiel, in J. Clin, Invest, 64, 761-769 (1979)*   |
| TA TA   | AR      | Kobilka, B.K., et al. "Chimeric $q_2$ -, $g_3$ -Adrenergic Receptors: Delineation of Domains Involved in Effector Coupling and Ligand Bindin Specificity" Science 240:1310-1316 (1988)*   |
| PA      | AS      | Laurell, Martin, et al., "Characterization of monoclonal antibodies against human protein C specific for the calcium ion-induced conformation or for the activation peptide region," FEBS Letts. 191(1):75-81 (1985)  |
| *       | АТ      | Matschiner, et al., Current Advances in Vitamin K Research, pp. 135-140, John W, Suttie, ed. (Elsevier Science Publishing Co., Ir 1988)*  |
| EXAMINE | I<br>ER | DATE CONSIDERED 8-19-95 4.23.97   |

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APPLICANT
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|          |       |   | OTHER PRIOR ART (Including Author, Title, Date, Pertinent Pages, Etc.)   |
|----------|-------|---|--|
| PAN TO   | AR    |   | Max, Edward, et al, J. Biol. Chem. 256:5116-5120 (1981)*   |
|          | AS    |   | Nakamura Satoko and Yoichi Sakata. "Immunoaffinity purification of protein C by using conformation-specific monoclonal antibodies to protein C-calcium ion complex." <u>Biochimica et Biophysica Act</u> 925:85-93 (1987)  |
| V DA     | АТ    |   | Ohlin, Ann-Kristin and Johan Stenfio, "Calcium-dependent Interaction between the Epidermal Growth Factor Precursor-like Region of Human Protein C and a Monoclonal Antibody," <u>J. Biol. Chem.</u> 262:13798-13804 (1988) |
| 13       | AR    |   | Ohlin, A. K., and J. Stenflo. "High Affinity Calcium to Domaines of Protein C That are Homologus to the Epidermal Growth Factor."  Thrombosis and Haemostatis 58(1):230 (1987)   |
| NO.      | AS    |   | Riechmann.L., M. Clark, H Waldmann, G. Winter, "Reshaping human antibodies for therapy," Nature, 332:323-327 (1988)*   |
| 13/00    | AT    |   | Seligsohn. Uri. et al "Homozygous Protein C Deficiency Manifested by Massive Venous Thrombosis in the Newborn." New England  J. of Medicine 310(9):559-562 (1984)  |
| Phys .   | AR    |   | Steams. Deborah, et al., "The Interaction of a Ca2*-dependent Monoclonal Antibody with the Protein C Activation Peptide Region." J. Biol. Chem. 263(2):826-832 (1988)  |
| 15 X     | AS    |   | Sugo, et al., Thromb. Hemost. Abstrs., Brussells, 229 (1987)*  |
| PA       | AT .  |   | Summers, M.D. and G.E. Smith, "A manual of methods for baculovirus vectors and insect cell culture procedures". Texas  Agricultural Experimental Station (1987)*   |
| 24G      | AR    |   | Suzuki, Kobi, et al., "Monoclonal Antibodies to Human Protein C; Effects on the Biological Activity of Activated Protein C and the Thrombin-Catalyzed Activation of Protein C," J. Biochem. 97:127-138 (1985)              |
| PAS      | AS .  |   | Taylor. F. B., et al., "Protein C Prevents the Coaquilopathic and Lethal Effects of Escherichia coli Infusion in the Baboon." J. Clin.  Invest. 79:918-925 (1987)  |
| K        | АТ    |   | Verhoeven, M., C. Milstein, G. Winter, "Reshaping Human Antibodies: Grafting an Antiboszyme Activity." Science, 239:1534-1536 (1988)*  |
| M        | AR    |   | Vukovich. Thomas, et al., "Replacement therapy for a homozygous protein C deficiency-state using a concentrate of human protein C and S," British J, of Haematology 70:435-440 (1988)                                      |
| TA       | AS    | 7 | Wakabavashi, et al., J. Biol. Chem. 261, 11097-11105 (1986)*   |
|          | АТ    |   |  |
| EXAMINER | 3 1 4 | 1 | DATE CONSIDERED 8-19-95-4,33,97  |

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